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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TRAN, HIEN THI

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/555,801

Applicant(s)

STOEPLER ET AL.

Examiner

Hien Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment to the claims filed on 6/5/00 regarding to claims 18-26 has not been entered because the total original claims as filed are 1-17.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "3" (page 10, line 14). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because in fig. 7, it is unclear as to whether the reference number "14a" is the same as to the reference number "14a" (diameter) in Fig. 4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "18a" (Fig.12). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which

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applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

Specification

6. The disclosure is objected to because of the following informalities:

On page 3, lines 15-16 reference to the claim is improper and should be deleted. See the remaining specification likewise.

On page 9, before line 1 --BRIEF DESCRIPTION OF THE DRAWINGS-- should be inserted.

On page 10, line 14 "3" should be changed to --3a-- (note Fig. 1 and the list on page 17).

On page 11, line 6 --surface-- should be inserted before "5" for consistency and clarity (note page 10, line 17); in line 12 "5" should be changed to --9-- (note line 1).

On page 12, line 13 --space-- should be inserted before "6" (note page 10, line 18).

On page 13, line 1 it is unclear as to whether the width 12 is the same as to the diameter 12 set forth on page 11, line 2; in line 2 it is unclear as to whether the inside surface 5a is the same as to the inside surface 5 set forth on page 10, line 17.

Note that the terminology used in the specification and claim should be consistent to avoid confusion.

Appropriate correction is required.

7. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

8. Claims 1-17 are objected to because of the following informalities:

In claim 1, line 4 --packet-- should be inserted after "monolith" for consistency and clarity; in line 8 "a" should be changed to --the-- (see claims 3, 4, 5, 6, 12, 13, line 3 likewise).

In claim 8, --the-- should be inserted after "as".

In claim 9, line 4 "(3)" should be changed to --(3a)-- (note Fig. 1). See claims 10, 11 likewise.

In claim 10, line 3 --the-- should be inserted before "monolith".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear as to what limitations applicants are attempting to recite and where the body of the claim begins; in line 4 it is unclear as to what is intended by "inside cross-sectional surfaces" and where they are shown in the drawings; in line 5 the "tube end (21)" has no clear antecedent basis (see claim 13 likewise).

In claim 3, it is unclear as to what limitations applicants are attempting to recite; in lines 4-5 it is unclear as to which surface is implied (note the surface of the monolith packet and the surface of the tube section). See claim 12 likewise.

In claim 4, it is unclear as to what limitations applicants are attempting to recite; in line 3 it is unclear as to what is intended by "respectively one longitudinal sections"; in lines 4 and 6 it is unclear as to what surface is implied; in line 5 it is unclear as to what "them" is implied. See claim 13 likewise.

In claim 5, line 3 "the narrowed longitudinal sections" and in line 4 the "partial peripheral region" have no clear antecedent basis. See claims 10, 14 likewise.

In claim 6, it is unclear as to what limitation applicants are attempting to recite; "the narrowing" in line 3 and the "peripheral region" in line 4 lack positive antecedent basis. See claim 15 likewise.

In claim 7, it is unclear as to what limitations applicants are attempting to recite.

In claim 9, applicants should rewrite the claim in independent form or amend to conform with the recitation in claim 1.

In claim 9, it is unclear as to whether the tube section, monolith, position mat are the same as to the tube section, monolith, position mat, respectively, set forth in claim 1.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 4, 6-7, 9, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Noritake et al (4,347,219).

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With respect to claims 1, 6-7, 9, Noritake et al discloses an apparatus and a method of producing said apparatus comprising: a housing consisting of a cylindrical tube section 1, an inflow funnel 2 and an outflow funnel 3; at least one monolith 8 arranged within the tube section 1; a gap space between the monolith and the housing; and a positioning mat 9 with radial pre-stressing located in the gap space; wherein the tube section has an inside cross-sectional surface that changes in stages in the form of several longitudinal sections and wherein the inside surface of the longitudinal sections extends essentially parallel to the central longitudinal axis of the tube section 1.

With respect to claims 4, 5-6, 13-14, Noritake et al discloses that the longitudinal section having highest inside cross-sectional surface extends from each tube end and a smaller inside cross-sectional surface located therebetween (Figs 1-3).

Instant claims 1, 4, 6-7, 9, 14-13 structurally read on the apparatus of Noritake et al.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. The art area applicable to the instant invention is that of catalytic converter.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

16. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noritake et al (4,347,219) in view of Otani et al (4,413,392).

Otani et al discloses that the monolith may be pressed in from each tube end of the tube section.

It would have been obvious to one having ordinary skill in the art to alternately press in the monolith from each tube end as taught by Otani et al in the method of Noritake et al as such is conventional in the art and no cause for patentability here.

17. Claims 3, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noritake et al (4,347,219) in view of JP 09-242533 or GB 1,473,219.

JP 09-242533 and GB 1,473,219 disclose that the sections of the monolith may be arranged according to the decrease in the inside cross-sectional surface.

It would have been obvious to one having ordinary skill in the art to alternately arrange the sections of the monolith of Noritake et al according to the decrease in the inside cross-sectional surface as taught by JP 09-242533 or GB 1,473,219 so as to obviate the disadvantage of high contact forces of deterioration in the elasticity of the mat.

18. Claims 5-6, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noritake et al (4,347,219) in view of JP 09-112260 (corresponding to Tosa et al (5,888,457).

The method and apparatus of Noritake et al are substantially the same as that of the instant claims, but fail to disclose whether the narrowed section may extend only over one peripheral region than in another.

However, Tosa et al discloses provision of a mat in which a compressed section extends only over one peripheral region than in another (Fig. 9).

It would have been obvious to one having ordinary skill in the art to construct the mat of Noritake et al so as a compressed section extends only over one peripheral region than in another, so as to decrease the non-uniform degree of the surface pressure on the monolith and provide compensation thereof as taught by Tosa et al.

19. Claims 8, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noritake et al (4,347,219) in view of Dattge et al (5,413,766).

The method and apparatus of Noritake et al are substantially the same as that of the instant claims, but fail to disclose the specific material for the positioning mat as claimed.

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However, Dattge et al discloses that the use of a positioning mat comprising a mineral fiber mat with embedded mica is known in the art.

It would have been obvious to one having ordinary skill in the art to alternately select an appropriate material for the positioning mat of Noritake et al, such as the known mineral fiber mat with embedded mica as admitted in Dattge et al for the known and expected results of obtaining the same results in the absence of unexpected results and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

20. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noritake et al (4,347,219) in view of DE 3,638,050.

Noritake et al discloses that the narrowed section encircles the middle portion of the monolith.

However, DE 3,638,050 discloses that the narrowed section may encircle the frontal region or the middle portion of the monolith.

It would have been obvious to one having ordinary skill in the art to alternately construct the apparatus of Noritake et al so as the narrowed section encircles the frontal portion of the monolith since positioning the parts of the apparatus is no more than a design choice, and well within the knowledge of one skilled in the art as evidenced by DE 3,638,050 and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is 308-4253. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (703) 308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.

Hien Tran

HT
May 5, 2003

**Hien Tran
Primary Examiner
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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-14 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 9 it is unclear as to whether the dividing plane is a structural part of the device or just an imaginary plane (see the remaining claims likewise); in line 10 the "longitudinal axis" has no clear antecedent basis, longitudinal axis of what; in line 11 --(10)-- should be inserted after "part"; in line 13 "(10)" should be deleted to avoid confusion; in lines 16-18 "some regions" is vague and indefinite and it is unclear as to whether the "some regions" are the same as to the "at least part" set forth in line 11.

In claim 3, line 8 "the said" should be changed to --said-- or --the--.

In claim 4 it is unclear as to the position of the bedding regions with respect to other regions of the housing.

In claim 5 it is unclear as to what structural limitation applicants are attempting to recite and whether the dividing plane is the same as to the dividing plane set forth in claim 1.

In claim 6, line 2 "there is provided" should be deleted; in line 3 "which" should be deleted.

In claim 7, line 2 --the at least one exhaust-gas cleaning element comprises--; in lines 2-3 "of the at least one" should be deleted.

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In claim 11, line 5 "a plurality of butt ends" has no clear antecedent basis, i.e. it is unclear as to how the butt ends are related to other elements of the device.

In claim 12, "a butt end" has no clear antecedent basis, i.e. it is unclear as to how the butt end is related to other elements of the device.

In claim 13, line 13 it is unclear as to whether the dividing plane is a structural part of the device or just an imaginary plane and it is also unclear as to how the dividing plane is related to other structural elements of the device.

In claim 14, it is unclear as to how the "two interposed bedding elements" are related to the at least one interposed bedding element set forth in claim 1.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by GB 1,473,219.

GB 1,473,219 discloses a catalytic converter comprising:

a housing having a tubular bedding section 1 and two transition cones attached thereto at the ends thereof;

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at least one substantially cylindrical exhaust gas cleaning element 5 disposed in the housing;
and

an annulus located between the exhaust gas cleaning element 5 and the bedding section 1 of the housing and filled at least partly by a bedding element 4 and being flared at least in part toward a dividing plane.

Instant claim 13 structurally reads on the apparatus of GB 1,473,219.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or unobviousness.
6. The art area applicable to the instant invention is that of catalytic converter.

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One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

7. Claims 1-2, 5-8, 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Waite (3,990,859) or Wiley (3,801,289) in view of Kearsley (3,912,459).

Waite discloses a catalytic converter comprising:

a housing having a tubular bedding section 3 and two transition cones 4 attached thereto at the ends thereof and being divided at least in one plane extending substantially perpendicular to the longitudinal axis;

a cylindrical exhaust gas cleaning element 7 disposed in the housing 3; and

a bedding element 11, 12 disposed in between the housing and the exhaust gas cleaning element 7.

Similarly, Wiley discloses a catalytic converter comprising:

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a housing having a tubular bedding section and two transition cones 19, 20 attached thereto at the ends thereof and being divided at least in one plane extending substantially perpendicular to the longitudinal axis;

a cylindrical exhaust gas cleaning element 11 disposed in the housing; and

a bedding element 26 disposed in between the housing and the exhaust gas cleaning element 11.

The apparatus of Waite or Wiley is substantially the same as that of the instant claims, but fails to disclose whether the bedding section and the bedding element may be made to flare conically toward the dividing plane at least in some regions.

However, Kearsley discloses that the bedding section and the bedding element should be made to flare conically toward the center of the housing so as to strengthen the catalytic converter under vibrations.

It would have been obvious to one having ordinary skill in the art to construct the bedding section and the bedding element in the catalytic converter of Waite or Wiley to be flare conically toward the center of the housing so as to strengthen the catalytic converter under vibrations as taught by Kearsley.

With respect to claim 2, Kearsley discloses that the support media, i.e. bedding mat is not necessarily extend all the way around the gas cleaning element. Also the specific length of the bedding mat is not considered to confer patentability to the claim. The precise percentage of length of the bedding mat would have been considered a result effective variable by one having ordinary

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skill in the art. Furthermore, it is noted that the present specification sets forth on page 4, line 28 that the claimed length percentage, is at best, a preferred limitation. As such, without more, the claimed length can not be considered "critical". Accordingly, one having ordinary skill in the art would have routinely optimized the length of the bedding mat in the system to obtain the desired insulation thereof. *In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980), and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art *In re Aller*, 105 USPQ 233.

With respect to claims 5, 6, 8, refer to Fig. 2 of Waite or Wiley.

With respect to claim 7, Waite discloses that the exhaust gas cleaning element 7 may comprise 2 or more exhaust gas cleaning elements (col. 3, line 13). It would have been obvious to one having ordinary skill in the art to provide more than one exhaust gas cleaning element in the catalyst converter of Wiley as evidenced by Waite and since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

8. Claims 3-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Waite (3,990,859) or Wiley (3,801,289) in view of Kearsley (3,912,459) as applied to claims 1-2, 5-8 above and further in view of Mase et al (4,203,949).

Mase et al disclose the conventionality of providing two axially spaced bedding elements 40, 140 for each exhaust gas cleaning element.

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It would have been obvious to one having ordinary skill in the art to select an appropriate number of bedding elements, such as two bedding elements as taught by Mase et al in the modified catalytic converter of Waite or Wiley to achieve the same elastic support benefits, since use of such is conventional in the art and no cause for patentability here. Furthermore, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

9. Claims 9-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Waite (3,990,859) or Wiley (3,801,289) in view of Kearsley (3,912,459) as applied to claims 1-2, 5-8 above and further in view of Gulati et al (3,892,537).

The modified apparatus of is substantially the same as that instantly claimed, but is silent as to whether the bedding element may be a cord wrapped around the gas cleaning element and covered with a woven wire sheath in some regions.

However, Gulati et al disclose provision of a cord 7 wrapped around the gas cleaning element 2 and covered with a woven wire sheath in some regions (col. 3, lines 36-50).

It would have been obvious to one having ordinary skill in the art to substitute the bedding element, i.e. the cord, of Gulati et al for the bedding element of Waite or Wiley for the known and expected results of obtaining the same results in the absence of unexpected results.

10. Claims 11-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Waite (3,990,859) or Wiley (3,801,289) in view of Kearsley (3,912,459) as applied to claims 1-2, 5-8 above and further in view of Sanocki et al (5,882,608).

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The modified apparatus of is substantially the same as that instantly claimed, but is silent as to whether the bedding element may be two axially adjoining strips having butt ends offsetting relative to each other.

However, Sanocki et al disclose provision of more than two axially adjoining strips having butt ends offsetting relative to each other.

It would have been obvious to one having ordinary skill in the art to substitute the bedding element, more than two axially adjoining strips having butt ends offsetting relative to each other of Sanocki et al for the bedding element of Waite or Wiley for the known and expected results of obtaining the same results in the absence of unexpected results.

11. Claim 14 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Waite (3,990,859) or Wiley (3,801,289) in view of Kearsley (3,912,459) as applied to claims 1-2, 5-8 above and further in view of Andersson et al (4,818,497).

Andersson et al disclose provision of providing more than one interposed bedding element 14 arranged axially spaced relative to each other.

It would have been obvious to one having ordinary skill in the art to provide more than one interposed bedding element in the modified apparatus of Waite or Wiley, as use of such is conventional in the art and no cause for patentability here.

12. Claim 14 is rejected under 35 U.S.C. § 103(a) as being unpatentable over GB 1,473,219 in view of Andersson et al (4,818,497).

The same comments with respect to Andersson et al apply.

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Response to Arguments

13. Applicant's arguments filed 12/28/99 have been fully considered but they are not persuasive.

Applicants argue that none of the prior art discloses that the two bedding elements arranged axially space relative to each other and located on the same side of a dividing plane. Such contention is not persuasive as the language of the instant claims is not commensurate in scope with such arguments. Furthermore, it should be noted that the reference of Mase et al is relied upon for teaching the conventionality of providing two axially spaced bedding elements 40, 140 for each exhaust gas cleaning element.

With respect to applicants' argument regarding to the advantages of the instant invention, it should be noted that the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

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Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wirth et al is cited for showing state of the art.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (703) 308-4253. The examiner can normally be reached on Monday-Thursday from 7:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode, can be reached on (703) 308-4311. The fax phone number for this Group is (703) 305-3599 (for Official papers after Final), (703) 305-5408 (for other Official papers) and (703) 305-6078 (for Unofficial papers).

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communication with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

HT

May 5, 2003

**HIEN TRAN
PRIMARY EXAMINER
GROUP 1700**

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.
3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the dividing plane (claim 5) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Specification

4. The disclosure is objected to because of the following informalities:

On page 7, line 19 "[sic]" should be deleted.

On page 10, between lines 20 and 21 --BRIEF DESCRIPTION OF THE DRAWINGS-- should be inserted.

On page 12, line 21 it is unclear as to where the "dividing plane" is shown in the drawings.

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On page 15, line 22 it is unclear as to what is intended by “[sic; no “or”]” and the brackets should be deleted.

On page 17, line 20 it is unclear as to what is intended by “[sic: 17]” and the brackets should be deleted.

Appropriate correction is required.

5. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

6. Claims 1-12 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 6 “soft” is a relative term and therefore is vague and indefinite; in line 9 “the end” lacks positive antecedent basis; in lines 11-12 “the longitudinal axis” has no clear antecedent basis; in lines 16 and 22 “some regions” is vague and indefinite; in line 16 “the annulus” has no clear antecedent basis.

In claim 4 it is unclear as to what is intended by “flaring conically in the same direction”.

In claim 5 it is unclear as to where the dividing plane is shown in the drawings and whether it is a part of the device.

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In claim 6, lines 4-5 it is unclear as to what is intended by "an" and whether the exhaust-gas cleaning element is the same as to the exhaust-gas cleaning element set forth in claim 1, and if not, then how they are related to each other. See claim 7 likewise.

In claim 8, it is unclear as to what structural limitation applicants are attempting to recite; in lines 5-6 "the neighboring region" has no clear antecedent basis.

In claim 9, line 5 "preferably" is vague and indefinite and should be deleted.

In claim 11, "the butt ends" lack positive antecedent basis.

In claim 12, it is unclear as to where the stepped structure is disclosed in the specification.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

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9. The art area applicable to the instant invention is that of catalytic converter.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

10. Claims 1-2, 5-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Waite (3,990,859) or Wiley (3,801,289) in view of Kearsley (3,912,459).

Waite discloses a catalytic converter comprising:

a housing having a tubular bedding section 3 and two transition cones 4 attached thereto at the ends thereof and being divided at least in one plane extending substantially perpendicular to the longitudinal axis;

a cylindrical exhaust gas cleaning element 7 disposed in the housing 3; and

a bedding element 11, 12 disposed in between the housing and the exhaust gas cleaning element 7.

Similarly, Wiley discloses a catalytic converter comprising:

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a housing having a tubular bedding section and two transition cones 19, 20 attached thereto at the ends thereof and being divided at least in one plane extending substantially perpendicular to the longitudinal axis;

a cylindrical exhaust gas cleaning element 11 disposed in the housing; and

a bedding element 26 disposed in between the housing and the exhaust gas cleaning element 11.

The apparatus of Waite or Wiley is substantially the same as that of the instant claims, but fails to disclose whether the bedding section and the bedding element may be made to flare conically toward the dividing plane at least in some region.

However, Kearsley discloses that the bedding section and the bedding element should be made to flare conically toward the center of the housing so as to strengthen the catalytic converter under vibrations.

It would have been obvious to one having ordinary skill in the art to construct the bedding section and the bedding element in the catalytic converter of Waite or Wiley to be flare conically toward the center of the housing so as to strengthen the catalytic converter under vibrations as taught by Kearsley.

With respect to claim 2, Kearsley discloses that the support media, i.e. bedding mat is not necessarily extend all the way around the gas cleaning element. Also the specific length of the bedding mat is not considered to confer patentability to the claim. The precise percentage of length of the bedding mat would have been considered a result effective variable by one having ordinary

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skill in the art. Furthermore, it is noted that the present specification sets forth on page 4, line 28 that the claimed length percentage, is at best, a preferred limitation. As such, without more, the claimed length can not be considered "critical". Accordingly, one having ordinary skill in the art would have routinely optimized the length of the bedding mat in the system to obtain the desired insulation thereof. *In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980), and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art *In re Aller*, 105 USPQ 233.

With respect to claims 5, 6, 8, refer to Fig. 2 of Waite or Wiley.

With respect to claim 7, Waite discloses that the exhaust gas cleaning element 7 may comprise 2 or more exhaust gas cleaning elements (col. 3, line 13). It would have been obvious to one having ordinary skill in the art to provide more than one exhaust gas cleaning element in the catalyst converter of Wiley as evidenced by Waite and since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

11. Claims 3-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Waite (3,990,859) or Wiley (3,801,289) in view of Kearsley (3,912,459) as applied to claims 1-2, 5-8 above and further in view of Mase et al (4,203,949).

Mase et al disclose the conventionality of providing two axially spaced bedding elements 40, 140 for each exhaust gas cleaning element.

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It would have been obvious to one having ordinary skill in the art to select an appropriate number of bedding elements, such as two bedding elements as taught by Mase et al in the modified catalytic converter of Waite or Wiley to achieve the same elastic support benefits, since use of such is conventional in the art and no cause for patentability here. Furthermore, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

12. Claims 9-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Waite (3,990,859) or Wiley (3,801,289) in view of Kearsley (3,912,459) as applied to claims 1-2, 5-8 above and further in view of Gulati et al (3,892,537).

The modified apparatus of is substantially the same as that instantly claimed, but is silent as to whether the bedding element may be a cord wrapped around the gas cleaning element and covered with a woven wire sheath in some regions.

However, Gulati et al disclose provision of a cord 7 wrapped around the gas cleaning element 2 and covered with a woven wire sheath in some regions (col. 3, lines 36-50).

It would have been obvious to one having ordinary skill in the art to substitute the bedding element, i.e. the cord, of Gulati et al for the bedding element of Waite or Wiley for the known and expected results of obtaining the same results in the absence of unexpected results.

13. Claims 11-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Waite (3,990,859) or Wiley (3,801,289) in view of Kearsley (3,912,459) as applied to claims 1-2, 5-8 above and further in view of Sanocki et al (5,882,608).

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The modified apparatus of is substantially the same as that instantly claimed, but is silent as to whether the bedding element may be two axially adjoining strips having butt ends offsetting relative to each other.

However, Sanocki et al disclose provision of more than two axially adjoining strips having butt ends offsetting relative to each other.

It would have been obvious to one having ordinary skill in the art to substitute the bedding element, more than two axially adjoining strips having butt ends offsetting relative to each other of Sanocki et al for the bedding element of Waite or Wiley for the known and expected results of obtaining the same results in the absence of unexpected results.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wirth et al is cited for showing state of the art.

15. The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1764.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (703) 308-4253. The examiner can normally be reached on Monday-Thursday from 7:00 AM - 6:00 PM.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

HT

May 5, 2003

**HIEN TRAN
PRIMARY EXAMINER
GROUP 1700**